

WHAT IS CLAIMED IS

1. A screw compressor equipped with an internal volume ratio adjusting slide valve and a capacity adjusting slide valve, wherein the capacity adjusting slide valve having a cut in the discharge side end part thereof for defining radial port and having a center female screw hole is screwed on a male screw thread part of a valve driving shaft, the internal volume ratio adjusting slide valve having a center hole is supported for sliding on said valve driving shaft in the suction side from the capacity adjusting slide valve, the internal volume ratio adjusting slide valve is pushed toward the capacity adjusting slide valve by an elastic member supported in the suction side bearing housing, and a fixing means for securing the internal volume ratio adjusting slide valve in place is provided, and

wherein internal volume ratio is adjusted through securing in place the internal volume ratio adjusting slide valve by means of said fixing means and capacity is adjusted through sliding the capacity adjusting slide valve by rotating said valve driving shaft.

2. The screw compressor according to claim 1, wherein said internal volume ratio adjusting slide valve is provided with a plurality of radial holes in the direction radial from the outer perimeter thereof, the holes being arranged along the direction of sliding, said fixing means is a pin plug to be screwed into one of female screw holes provided in the suction side bearing housing and/or rotor casing so that the pin part of the pin plug is inserted into one of said radial holes, and said valve driving shaft is extended to the outside of

the suction side bearing housing to be provided with a handle at the end thereof for rotating the valve driving shaft to slide the capacity adjusting slide valve.

3. The screw compressor according to claim 2, wherein at least one female screw hole is provided in each of the bearing housing and rotor casing, and the screw holes are plugged up with blank plugs except the screw hole into which the pin plug for securing the internal volume ratio adjusting slide valve in place is screwed in.

4. The screw compressor according to claim 1, wherein said fixing means is constructed such that a rack is attached to the internal volume ratio adjusting slide valve and a pinion meshing with the rack is fixed to a pinion shaft supported for rotation in the suction side bearing housing, the pinion shaft being able to be locked of rotation to secure the internal volume ratio adjusting slide valve in arbitrary positions.

5. A combined screw compressor unit consisting of a plurality of screw compressors in which the discharge port of one compressor is connected to the suction port of the other one to form a multi stage compressor unit, wherein the unit includes at least a screw compressor according to any one of claim 1 to 4.